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## **Description**

# **Easily Detachable and Attachable Spikes for Golf Shoes**

### **BACKGROUND OF INVENTION**

[0001]

The present invention relates to spikes that are attached to the sole of golf shoes. The spikes according to this invention are made of molded plastics and are durable and have appropriate grip on the grasses. At the same time they have the convenience of being screwed and unscrewed with coins. The spikes do not need a spike wrench or any specialized screwing device to attach or to detach.

[0002]

Generally, spikes are attached to the sole of shoes and have the function of protecting the body of the users in field tracks, soccer and golf. They are also used for mountain climbing shoes to prevent slipping.

[0003]

Those spikes are designed to be attached or detached from the sole of the shoes when the field conditions require different spikes or when the spikes attached to the shoes are worn out. The spikes for the use on the grasses are designed to cushion the body weight of the wearers and to protect the grasses with firm grip to prevent slipping.

[0004]

Those spikes that are used for golf shoes consist of a bolt in the upper part to attach to the nut fixed at the sole of the shoes and metal spike pins in the lower part. The spikes are designed to be screwed into the sole or unscrewed apart from the shoes using a special spike wrench.

[0005]

Since the spikes for golf shoes described above are made of metal, the entire body weight are concentrated on the spikes that are not flexible. The spikes are good for preventing slipping, but the golf shoes with such spikes are uncomfortable to wear.

[0006]

Also, the existing and currently used spikes for golf shoes need a spike wrench or a turning tool. The golfers, therefore, had to suffer the inconvenience of having to carry such special tools, since the spikes cannot be attached or detached.

[0007]

The present invention is designed to solve the problems described above. The present invention provides more economical and time-saving golf shoes spikes for the growing number of golfers. The spikes according to this invention are made of plastic and come in one piece that can be easily detached or attached using coins or a spike wrench.

## **DETAILED DESCRIPTION**

[0008]

The golf shoes spikes in accordance with the present invention are attached to or detached from the sole of golf shoes and consist of the following parts : the tongue in the upper part that are screwed into the attachment nut at the sole of golf shoes; the lower part formed by four active protrusions placed in equal 90 degree angles; four protrusions lower in height than those described in the immediately preceding segment; concave straight-line groove connecting a pair of diagonally placed lower protrusions that prevent slipping and anchor the center of weight, which can be used to screw or unscrew the spike units using coins; and the pair of holes to jibe with a spike wrench placed in the pair of lower protrusions which do not have the concave straight-line groove described in the immediately preceding segment.

[0009]

Figure 1 illustrates a sidelong view of the golf shoes spikes in accordance with the present invention. Figure 2 represents a sidelong view of the underside of the golf shoes spikes in accordance with the present invention. Figure 3 represents a schematic overview from the top of the same. Figure 4 represents a schematic under view from the bottom of the same. Figure 5 represents the sectional view of Figure 4 along the perpendicular line along points A-A. Figure 6 presents the sectional view of Figure 4 along the horizontal line along points B-B. Figure 7 represents the side view of Figure 4 from the direction of the point marked C.

[0010]

As seen in the diagrams, the golf shoes spikes in accordance with the

present invention have the unit body (10) with the tongue in the upper part (10a) that goes into the nut affixed at the sole of the shoes for attachment and detachment and multiple protrusions (12, 14) at the lower part of the unit body. The spikes are in one unit made of plastics molded from protrusion methods, which can be easily improved and enables mass production.

[0011]

To manufacture the golf shoes spikes in accordance with the present invention using protrusion methods in one unit, the mold has to be designed and made and the raw materials are molded into the mold by pressure protrusion methods. The temperature for such protrusion molding will be in the range of 170 – 190 degrees centigrade. It takes about 15 seconds to complete one cycle of protrusion molding, which makes it possible for mass production. Raw materials for the present invention can be polyurethane, elastic rubber, ABS polymer, or polycarbonate.

[0012]

The protruded parts (12, 14) are composed of four active protrusions (12) placed in equal 90 degree angles; four protrusions lower in height than those described in the immediately preceding segment (14) placed between the four higher protrusions (12). The middle protrusions (14) are lower than the four higher protrusions (12).

[0013]

There is concave straight-line groove (16) connecting a pair of diagonally

placed lower protrusions that prevent slipping and anchor the center of weight, which can be used to screw or unscrew the spike units using coins.

[0014]

The pair of holes to jibe with a spike wrench (18) placed in the pair of lower protrusions (14) which do not have the concave straight-line groove (16) is used for a spike wrench for the attachment and detachment of the golf shoes spikes.

[0015]

There the golf shoes spikes in accordance with the present invention can be attached to and detached from the golf shoes using the conventional spike wrench.

[0016]

The present invention as described above can be attached into or detached from the nut affixed at the sole of golf shoes by screwing the tongue in the upper part (10a) of the unit body (10). If one has no spike wrench, a coin or any metal with less than two millimeters of thickness can be used to screw or unscrew the same. An automobile key or any other keys can be used.

[0017]

The concave straight-line groove (16) connecting a pair of diagonally placed lower protrusions that can be used to screw or unscrew the spike units using coins can prevent slipping and anchor the center of weight.

The unit body (10) is circular and the height of the circular unit body (10) is about the same as the height of the part where the concave straight-line groove (16). Therefore, the contact with the grasses is soft and the grasses are not damaged.

[0018]

The golf shoes spikes in accordance with the present invention have soft contact with the grasses and will make the wearer comfortable because the materials for the spikes are elastic.

[0019]

As discussed above, since the golf shoes spikes in accordance with the present invention are made of one unit molded with pressurized protrusion methods and have durability and good contact with the grasses, they will not damage the grasses and can be easily attached or detached using coins when a spike wrench is not available.

## **BRIEF DESCRIPTIONS OF DRAWINGS**

[0020]

Figure 1 illustrates a sidelong view of the golf shoes spikes in accordance with the present invention.

[0021]

Figure 2 represents a sidelong view of the underside of the golf shoes spikes in accordance with the present invention.

[0022]

Figure 3 represents a schematic overview from the top of the same.

[0023]

Figure 4 represents a schematic under view from the bottom of the same.

[0024]

Figure 5 represents the sectional view of Figure 4 along the perpendicular line along points A-A.

[0025]

Figure 6 presents the sectional view of Figure 4 along the horizontal line along points B-B.

[0026]

Figure 7 represents the side view of Figure 4 from the direction of the point marked C.

[0027]

Numbered parts are :

the unit body

10a the tongue in upper part that goes into the nut affixed at the sole

12 active protrusions

14 lower protrusions

16 concave straight-line grooves

18 spike wrench holes